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Hard times in paradise?

Oxidative status, physiology and fitness
in the tropical Seychelles warbler

Janske van de Crommenacker

1. Oxidative stress is proposed to be an important life-history determinant, but it is too early to draw general conclusions from the literature given the great variability among studies in methods, species and environmental settings^{1,2,3}.

¹ This thesis

² Dowling & Simmons (2009) *Proceedings Roy. Soc. B* 276: 1737–1745.

³ Cohen *et al.* (2010) *Functional Ecology* 24: 997–1006.

2. Studies investigating variation in oxidative balance tend to underestimate the importance of ecological covariates^{1,2,3}.

¹ This thesis (e.g., food availability, health status, reproductive stage and time of day)

² Costantini (2008) *Ecology Letters* 11: 1238–1251.

³ Hórák & Cohen (2010) *Functional Ecology* 24: 960–970.

3. Calculating oxidative balance as a ratio between oxidants and antioxidants can be tricky as it assumes equality of units for the two parameters measured¹.

¹ This thesis

4. In adult birds, any benefits of lysozyme appear to be balanced by costs in the form of increases in energy use and oxidative damage during inflammatory responses¹.

¹ This thesis

5. The functional specificity of individual antioxidants limits interpretations and restricts inferences among different antioxidants^{1,2,3}.

¹ This thesis

² Cohen *et al.* (2009) *Oecologia* 161: 673–683.

³ Monaghan *et al.* (2009) *Ecology Letters* 12: 75–92.

6. Redox reactions are complex. Antioxidants have multiple roles. And species differ in their physiology. These are only three of the many reasons why any study of oxidative stress can only serve a small but valuable piece in the very large puzzle.

7. Management of endangered species involves more than biological considerations; awareness and involvement of the local community are also essential.

8. Wine can mitigate stress, but it is not just its high antioxidant content that does the job.

9. Graphs showing diurnal patterns of physiological variables do not only reveal information on the observed animals, but also on the lunch-habits of their observers¹.

¹ Chapter 2, this thesis

10. To reduce mankind's ecological footprint on Indian Ocean islands, banning flip-flops would be a good start.

11. Ageing is not necessarily bad; take it as a sign that you have been living well.

12. Returning from a tropical place does not always mean you were on vacation.

13. Het meervoud van lef is leven.